

Remarks

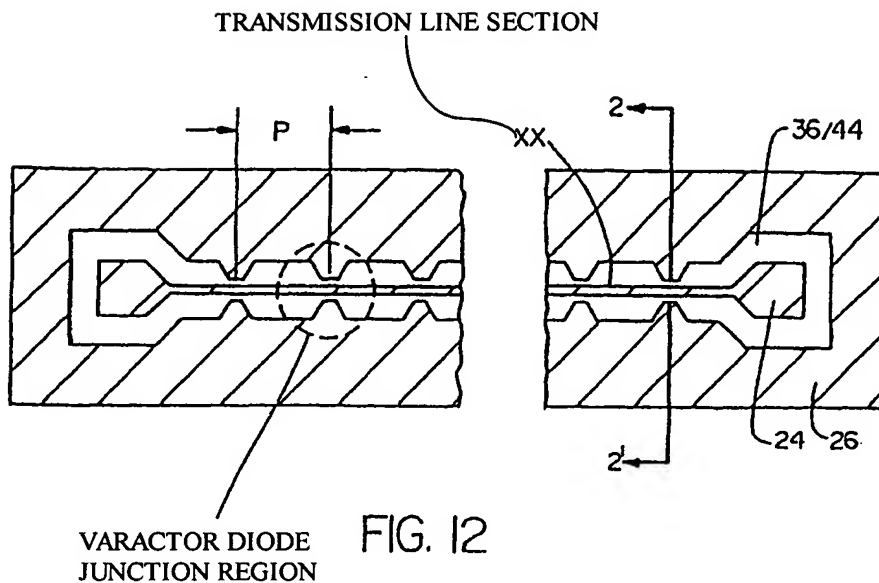
Reconsideration of the subject application is requested in view of the preceding amendments and the following remarks. Claims 33-47 are in the application. By this amendment, claims 44-46 are amended, and new claims 53-73 are submitted for consideration. Upon entry of this Amendment, claims 33-47 and 53-73 are in the application.

Claims 44-46 are amended for clarification, and no new matter is introduced.

Support for new claims 53-73 can be found at, for example, original claims 33-52. No new matter is introduced.

Claim 40 was indicated as being allowable if amended to recite the features of its base claim and any intervening claims. New claim 53 corresponds to claim 40 amended in this manner, and therefore claim 53 and dependent claims 54-62 are in condition for allowance.

Claims 33-39 and 41-47 stand rejected as allegedly anticipated by Marsland et al., U.S. Patent 5,378,939 ("Marsland"). This rejection is traversed. Claim 33 recites, in part, a sampler that comprises a non-linear transmission line that includes a non-parallel waveguide. According to the Office action, Marsland's Fig. 5 and Fig. 12 show "nonparallel segments that can be read as a nonparallel waveguide." However, the nonparallel segments of Marsland are associated with Ohmic contact regions, and do not define a nonparallel waveguide. For convenience, Marsland's Fig. 12 is reproduced below.



According to Marsland,

The nonlinear transmission line between input terminal 12 and output terminal 16 is comprised of a plurality of segments. Each segment is comprised of an inductor L and a capacitor C. In the preferred embodiment, the inductance is implemented through short sections of transmission line marked XX in FIG. 12. . . . Each capacitor takes the form of a varactor diode junction in the preferred embodiment. The capacitor in each section couples the center conductor 24 of the transmission line to a ground plane shown generally at 26. Marsland, col. 19, lines 33-43.

Thus, the nonparallel segments of Marsland are associated with capacitors that couple transmission line conductors, but the transmission lines are defined by the parallel conductors of the short sections between junction regions. Because Marsland does not teach or suggest nonparallel transmission lines, claim 33 and dependent claims 34-43 are properly allowable over Marsland.

Claim 44 as amended recites, in part, a sampling circuit that comprises a first nonparallel waveguide configured to receive a sampling strobe and having a first impedance and a second nonparallel waveguide configured to receive the sampling strobe from the first nonparallel

waveguide and having a second impedance, wherein the first impedance and the second impedance are configured to produce an enhanced sampling strobe. Marsland does not teach or suggest such a sampler. Even if Marsland's nonparallel segments were nonparallel waveguides, Marsland does not teach or suggest a first nonparallel waveguide and a second nonparallel waveguide having first and second impedances, respectively, configured to produce an enhanced sampling strobe. For at least this reason, claim 44 and dependent claims 45-52 are properly allowable over Marsland.

Claim 63 and dependent claims 64-73 are also properly allowable over Marsland. Claim 63 recites, in part, a sampler that comprises a non-linear transmission line having first, second, and third non-parallel waveguide sections with first, second, and third characteristic impedances, respectively. Even if the nonparallel segments of Marsland were nonparallel waveguide sections (which they are not), Marsland does not teach or suggest a sampler that includes three non-parallel waveguide sections having respective characteristic impedances. Instead, Marsland's nonparallel segments would be the same, and therefore would have only a single characteristic impedance. Therefore, claim 63 and dependent claims 64-73 are properly allowable over Marsland.

In view of the preceding amendments and remarks, all pending claims are in condition for allowance and action to such end is requested.

Respectfully submitted,

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